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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/939,345	08/24/2001	Teruo Umemoto	1999/US	3613

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EXAMINER

CREPEAU, JONATHAN

ART UNIT PAPER NUMBER

1746

DATE MAILED: 09/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/939,345

Applicant(s)

UMEMOTO, TERUO

Examiner

Jonathan S. Crepeau

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 06 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-105 is/are pending in the application.
- 4a) Of the above claim(s) 23, 24, 39, 40, 49, 50 and 80-105 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 51-79 is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-11, 13-22, 25, 32-34, 36, 37, 41-44, 46 and 47 is/are rejected.
- 7) ☒ Claim(s) 6, 12, 26-31, 35, 38, 45 and 48 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 12/12/01.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Election/Restrictions*

1. Applicant's election without traverse of specie (i), the battery, in the reply filed on July 6, 2004 is acknowledged. Claims 23, 24, 39, 40, 49, 50, and 80-105 are withdrawn as being drawn to nonelected species.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-5, 8-11, 13, 15-19, 21, 22, 25, 32-34, 37, 41-44, and 47 are rejected under 35 U.S.C. 102(e) as being anticipated by Uckert et al (U.S. Pre-Grant Publication No. 2003/0027934) as evidenced by *Hawley's Condensed Chemical Dictionary*, 14<sup>th</sup> edition.

Uckert et al. is directed to an electric-energy generating device which comprises a copolymer of 9-fluorenone (see formula V(a) of Fig. 8). The device may be a photovoltaic device, which may be considered to be a "battery" (see paragraph 129 and definition of "battery" in *Hawley's*). Each of device layers 120, 130, or 140 may contain the copolymer of 9-

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fluorenone, the layers 120 and 140 functioning as positive and negative electrodes. Regarding claim 3, each electrode has a current collector (110, 150). Regarding claim 2, the polymer may be doped with an anion (see paragraph 72 et seq.). Regarding claims 4 and 5, the electrodes may further comprise an electroconductive polymer such as polyaniline (see paragraph 126). Regarding claim 22, although the battery of Uckert et al. is not a "secondary" battery, this limitation is recited as an intended use and as such is given little patentable weight (see MPEP §2111).

Thus, the instant claims are anticipated.

### *Claim Rejections - 35 USC § 103*

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 7, 14, 20, 36, and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uckert et al.

Uckert et al. do not expressly teach the weight percentage of the 9-fluorenone monomer being 20% or more.

However, the invention as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made because the artisan would be motivated to adjust the

amount of 9-fluorenone monomer to affect the resulting characteristics of the copolymer of Uckert et al. It has been held that the discovery of an optimum value of a result effective variable in a known process is ordinarily within the skill of the art. *In re Boesch*, 205 USPQ 215 (CCPA 1980). As such, the claimed weight percentage is not considered to distinguish over the reference.

***Allowable Subject Matter***

6. Claims 51-79 are allowed.
7. Claims 6, 12, 26-31, 35, 38, 45, and 48 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
8. The following is a statement of reasons for the indication of allowable subject matter:  
  
Uckert et al. does not teach or fairly suggest that the photovoltaic cell comprises an electrolyte (claims 51, 60, and 68), or that the cell is a secondary battery (claims 38 and 48). Regarding claims 26-31, Uckert et al. do not teach or fairly suggest any of the claimed species, and regarding claims 6, 12, 35, and 45 the reference does not teach or fairly suggest adding a metal oxide to the electrode layers (120, 140).

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*Conclusion*

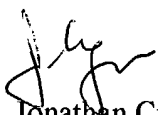
9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Tobishima et al (U.S. Patent 4,343,871; teaches a battery comprising a 9-fluorenone electrode material, but the material is not a polymer).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan Crepeau whose telephone number is (571) 272-1299.

The examiner can normally be reached Monday-Friday from 9:30 AM - 6:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Barr, can be reached at (571) 272-1414. The phone number for the organization where this application or proceeding is assigned is (571) 272-1700. Documents may be faxed to the central fax server at (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jonathan Crepeau  
Primary Examiner  
Art Unit 1746  
September 22, 2004